

Curriculum Vitae

Jeff Wesner, Ph.D.
Associate Professor
Department of Biology
University of South Dakota

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EDUCATION

| <u>Institution</u> | <u>Area of Specialization</u> | <u>Degree</u> | <u>Year Earned</u> |
|-----------------------------|-------------------------------|---------------|--------------------|
| University of Oklahoma | Zoology/Ecology | Ph.D. | 2010 |
| Western Carolina University | Biology/Ecology | M.S. | 2005 |
| University of Oklahoma | Zoology | B.S. | 2002 |

POSITIONS

| <u>Institution</u> | <u>Position/Title</u> | <u>Dates</u> |
|---|------------------------------|-------------------|
| University of South Dakota | Associate Professor | 2019-present |
| National Ecological Observatory Network | Scientist in Residence | 2020 (sabbatical) |
| University of South Dakota | Assistant Professor | 2013-2019 |
| Colorado State University/USGS | Postdoc | 2012-2013 |
| Brigham Young University | Postdoc | 2010-2012 |
| Sam Noble Okla. Museum of Natural History | Graduate Research Assistant | 2005-2010 |
| University of Oklahoma | Graduate Teaching Assistant | 2005-2010 |
| Western Carolina University | Graduate Teaching Assistant | 2003-2005 |
| University of Oklahoma | Undergrad Research Assistant | 2001-2003 |
| Oklahoma Fisheries Research Laboratory | Undergrad Research Assistant | 2002-2003 |

TEACHING

COURSES TAUGHT

| | |
|-----------|--|
| 2017-pres | Inquiry and Analysis in Biology (BIOL 280) – USD |
| 2016-pres | Bayesian Statistics (BIOL 792) – USD |
| 2016-pres | Survey of Biology (BIOL 103) – USD |
| 2015-pres | Environmental Science (BIOL 310) – USD |
| 2022 | Bayesian Model Checking (BIOL 792) – USD |
| 2021 | Applied Bayesian Modeling (BIOL 792) – USD |
| 2019 | Readings in Bayesian Statistics (BIOL 792) – USD |
| 2015 | Restoration Ecology (UHON 490/BIOL 592) – USD |
| 2015/17 | Senior Seminar (BIOL 490) – USD |
| 2014-16 | Graduate Seminar (BIOL 790/890) –USD |
| 2014 | Biodiversity and Ecosystem Functioning (BIOL 492/592) – USD |
| 2014-17 | Ecosystem Ecology (BIOL 492/592) – USD |
| 2013/16 | Foundations of Ecology (BIOL 792) – USD |
| 2013/14 | <i>Guest Lectures</i> (Freshwater Ecology/Sustainability/River Ecosystems) |
| 2005-2010 | Graduate Teaching Assistant (Human Anatomy) – Univ of Oklahoma (OU) |
| 2009 | Instructor of Record (Introduction to Zoology) – OU |
| 2008 | Graduate Teaching Assistant (Ichthyology) – OU |
| 2007/2008 | Graduate Teaching Associate (Human Anatomy) – OU |
| 2007 | Guest Lecturer (Human Anatomy) – OU |

2006 Guest Lecturer (Concepts in Biology) – OU
2003-2005 TA (Ecology, Genetics, Environmental Biology, Introductory Biology) – WCU

PUBLICATIONS (n=37) *undergraduate author **graduate author ***postdoc author

Peer-reviewed

2022 Albertson, LK, MA Briggs, Z Maguire, S Swart, WF Cross, CW Twining, **JS Wesner**, CV Baxter, and DM Walters. 2022. Dietary composition and fatty acid content of giant salmonflies (*Pteronarcys californica*) in two Rocky Mountain rivers. *Ecosphere* 13: e3904.

Carlson, TL**, BJ Schall, DO Lucchesi, **JS Wesner**. *In press*. Development and application of a size structure index for Blue Sucker. *North American Journal of Fisheries Management*.

Pomeranz, JF***, JR Junker, **JS Wesner**. 2022. Individual size distributions across North American streams vary with local temperature. *Global Change Biology* 28: 848-858.

2021 Kraus, JM, **JS Wesner**, DM Walters. 2021. Insect-mediated contaminant flux at the land-water interface: Are ecological subsidies driving exposure or is exposure driving subsidies? *Environmental Toxicology and Chemistry* 40: 2953-2958

Wesner, JS, JP Pomeranz***. 2021. Choosing priors in Bayesian ecological models by simulating from the prior predictive distribution. *Ecosphere* 12, e03739.

Jarchow, M, AC Davis, **JS Wesner**. 2021. Non-destructive estimation of aboveground plant biomass in South Dakota tallgrass prairie. *Proceedings of the South Dakota Academy of Science*. 100: 53-65

Liebl, AL, **JS Wesner**, AF Russell, AW Schrey. 2021. Methylation patterns at fledging predict dispersal in a cooperatively breeding bird. *PLoS One* 16: e0252227.

Wesner, JS, Van Peurse D, Flores J, Lio Y, Wesner CA. 2021. Forecasting hospitalizations due to COVID-19 in South Dakota, USA. *Journal of Healthcare Bioinformatics* 5: 218-229.

2020 Pomeranz, JF***, **JS Wesner**, and JS Harding. 2020. Changes in stream food web structure across a gradient of acid mine drainage increases local community stability. *Ecology* 101: e03102.

Wesner, JS, DL Swanson, MD Dixon, DA Soluk, DJ Quist**, LA Yager**, JW Warmbold**, E Oddy*, TC Seidel*. 2020. Loss of potential aquatic-terrestrial subsidies along the Missouri River floodplain. *Ecosystems* 23: 111-123.

2019 **Wesner, JS**. 2019. Using stage structured food webs to assess the effects of contaminants and predators on aquatic-terrestrial linkages. *Freshwater Science* 38: 928-935.

- Henry, B**, **JS Wesner**, JL Kerby. 2019. Cross-ecosystem effects of agricultural tile drainage, surface runoff, and selenium in the Prairie Pothole Region. *Wetlands* 40: 527-538.
- Sazama, EJ**, SP Ouellette, and **JS Wesner**. 2019. Bacterial endosymbionts are common among, but not necessarily within, insect species. *Ecological Entomology* 48: 127-133.
- Wesner, JS**, DM Walters, and RE Zuellig. 2019. Pulsed salmonfly emergence and its potential contribution to terrestrial detrital pools. *Food Webs* 18:e00105
- 2018 Henry, BL**, and **JS Wesner**. 2018. Severing ties: Different responses of larval and adult aquatic insects to atrazine and selenium. *Environmental Science & Technology* 52:8848-8857.
- Warmbold, JW**, and **JS Wesner**. 2018. Predator foraging strategy mediates the effects of predators on local and emigrating prey. *Oikos* 127:579-589.
- Walters, DM, **JS Wesner**, RE Zuellig, DA Kowalski, and MC Kondratieff. 2018. Holy flux: spatial and temporal variation in massive pulses of emerging insect biomass from western U.S. rivers (The Scientific Naturalist). *Ecology* 99:238-240.
- 2017 Wanty, RB, LS Balistreri, **JS Wesner**, DM Walters, TS Schmidt, CA Stricker, J Kraus, and RE Wolf. 2017. *In vivo* isotopic fractionation of zinc combined with novel biodynamic modeling yields insights into detoxification mechanisms in the mayfly *Neocloeon triangulifer*. *Science of the Total Environment* 609:1219-1229.
- Wesner, JS**, DM Walters, TS Schmidt, JM Kraus, CA Stricker, WC Clements, RE Wolf. 2017. Metamorphosis affects metal concentrations and isotopic signatures in a mayfly (*Baetis tricaudatus*): Implications for the aquatic-terrestrial transfer of metals. *Environmental Science & Technology* 51:2438-2446.
- Sazama, EJ**, MJ Bosch*, CS Shouldis*, SP Ouellette, **JS Wesner**. 2017. Incidence of *Wolbachia* in aquatic insects. *Ecology and Evolution* 7:1156-1169.
- 2016 **Wesner, JS**. 2016. Contrasting effects of fish predation on benthic versus emerging prey: a meta-analysis. *Oecologia* 180:1205-1211.
- Allen, DC and **JS Wesner**. 2016. Synthesis: comparing effects of resource and consumer fluxes into recipient food webs using meta-analysis. *Ecology* 97:594-604*.
*F1000 Recommendation
- Belk, MC, M Maxwell, C Laidlaw, **JS Wesner**. 2016. Building a better June Sucker: characterization of mouth shape in the captive brood stock. *Open Fish Science Journal* 9:29-36.
- 2015 **Wesner, JS**, P Meyers, EJ Billman, and MC Belk. 2015. Habitat selection and consumption across a landscape of multiple predators. *Ecology and Evolution*

5:121-129.

- Wesner, JS,** and MC Belk. 2015. Variation in the trophic position of common stream fishes and its relationship to the presence of a rare fish, northern leatherside chub (*Lepidomeda copei*). *Ecology of Freshwater Fish* 24:234-241.
- 2014 Kraus, JM, DM Walters, **JS Wesner,** CA Stricker, TS Schmidt, and RE Zuellig. 2014. Metamorphosis alters contaminant transfer and diet tracers in insects. *Environmental Science & Technology* 48:10957-10965*.
*Featured as an Editor's Choice by the American Chemical Society
*Featured on CBS radio – KNX Los Angeles
- Wesner, JS,** JM Kraus, TS Schmidt, DM Walters and WH Clements. 2014. Metamorphosis enhances the effects of metal exposure on the mayfly, *Centroptilum triangulifer*. *Environmental Science & Technology* 48:10415-10422.
- 2013 **Wesner, JS.** 2013. Fish predation alters benthic, but not emerging, insects across whole pools of an intermittent stream. *Freshwater Science* 32:438-449.
- 2012 **Wesner, JS,** EJ Billman, and MC Belk. 2012. Multiple predators indirectly alter community assembly across ecological boundaries. *Ecology* 93:1674-1682.
- Wesner, JS.** 2012. Emerging aquatic insects as predators in terrestrial systems across a gradient of stream temperature in North and South America. *Freshwater Biology* 57:2465-2474.
- Wesner, JS,** and MC Belk. 2012. Habitat relationships among biodiversity indicators and co-occurring species in a freshwater fish community. *Animal Conservation* 15:445-456.
- Wesner, JS.** 2012. Predator diversity effects cascade across an ecosystem boundary. *Oikos* 121:53-60. *Nominated for the Hynes Award from the Society for Freshwater Science.
- Gillette, DP, AM Fortner, NR Franssen, S Cartwright, CM Franssen, **JS Wesner,** PC Reneau, FH Reneau, IB Schlupp, EC Marsh-Matthews, WJ Matthews, and CW Lee. 2012. Patterns of change over time in darter (Teleostei: Percidae) assemblages of the Arkansas River basin, northeastern Oklahoma, USA. *Ecography* 35:1-10.
- 2011 **Wesner, JS,** EJ Billman**, A Meier*, and MC Belk. 2011. Morphological convergence during pregnancy among predator and non-predator populations of the livebearing fish *Brachyrhaphis rhabdophora* (Teleostei: Poeciliidae). *Biological Journal of the Linnean Society* 104:386-392.
- Wesner, JS.** 2011. Shoaling species drive fish assemblage response to sequential large floods in a small Midwestern U.S.A. stream. *Environmental Biology of Fishes* 91:231-242.

Wesner, JS, JW Cornelison, CD Dankmeyer*, PF Galbreath, and TH Martin. 2011. Growth, pH tolerance, survival, and diet of introduced northern and native southern strain Appalachian brook trout. *Transactions of the American Fisheries Society* 140:37-44.

2010 **Wesner, JS**. 2010. Aquatic predation alters a terrestrial prey subsidy. *Ecology* 91:1435-1444.

Wesner, JS. 2010. Seasonal variation in the trophic structure of a spatial prey subsidy linking aquatic and terrestrial food webs: adult aquatic insects. *Oikos* 119:170-178.

BOOK CHAPTERS

Wesner, JS, JM Kraus, BL Henry**, and J Kerby. 2020. Metamorphosis and the impact of contaminants on ecological subsidies. in JM Kraus, DM Walters, and MA Mills, editors. Contaminants and Ecological Subsidies at the Land-Water Interface. Springer Scientific.

Kraus, JM, **JS Wesner**, DM Walters. 2020. Predicting the dark side of subsidies: aquatic insect emergence and contaminant flux across aquatic-terrestrial boundaries. in JM Kraus, DM Walters, and MA Mills, editors. Contaminants and Ecological Subsidies at the Land-Water Interface. Springer Scientific.

TEXTBOOKS

Wesner, JS and J Raiche. 2020. Inquiry and Analysis in Biology.
<https://bookdown.org/connect/#/apps/6200/access>

PREPRINTS

Wesner, JS, Van Peurse, D, Flores, J, Yuhlong, L, and Wesner, C. 2020. Forecasting hospitalizations due to COVID-19 in South Dakota, USA. medRxiv:
<https://doi.org/10.1101/2020.07.22.20160184>

Wesner JS, Pomeranz JP. Choosing priors in Bayesian ecological models by simulating from the prior predictive distribution. bioRxiv. 2020 Jan 1.
<https://doi.org/10.1101/2020.12.10.419713>

REPORTS AND PROCEEDINGS

Kerby, JL, **JS Wesner**, M Schwarz. 2018. Examining the impacts of agricultural tile drainage on wetland fauna in eastern South Dakota. Final Report to South Dakota, Game, Fish, and Parks for grant T-68-R-1.

Wanty, RB, LS Balistreri, **JS Wesner**, DM Walters, TS Schmidt, F Podda, G De Giudici, CA Stricker, J Kraus, P Lattanzi, RE Wolf, R Cidu. 2015. Isotopic insights into biological regulation of zinc in contaminated systems. *Procedia Earth and Planetary Science* 13:60-63.

Carr, NB, SL Garman, A Walters, A Ray, CP Melcher, **JS Wesner**, MS O'Donnell, KR Sherrill, and ZH Bowen. 2013. Wyoming Basin Rapid Ecoregional Assessment: U.S. Geological Survey Fact Sheet 2013-3062. 2 p.

Wesner, JS, and MC Belk. 2011. Characterization of mouth shape phenotype in the captive brood stock of June sucker, *Chasmistes liorus*. Annual Report to June Sucker Recovery Implementation Project.

Wesner, JS, and MC Belk. 2011. Aquatic and terrestrial factors influencing the distribution of a potential biodiversity indicator species in the Bear River Drainage, WY, USA: northern leatherside chub (*Lepidomeda copei*). Annual Report to the Bureau of Land Management.

Wesner, JS and G. Gilliland. 2002. Oklahoma bass tournaments 2002 annual report. Oklahoma Department of Wildlife Conservation. *Featured on ESPN.com*.

FUNDING (\$1,727,568 awarded to date)

Extramural Grants

As PI or Co-PI (\$1,083,939)

- 2021-2023 **National Science Foundation**. Collaborative Research: MSA: The influence of temperature and resource supply on community size spectra in streams. Jeff Wesner (**PI**), Jim Junker (Co-PI), Justin Pomeranz (Special Investigator). Award #2106067. \$258,879.
- 2021-2022 **South Dakota Game, Fish, and Parks**. Define the spatial distribution and population demographics of Asian carp populations and the associated fish community in the Missouri River Basin. Jeff Wesner (**PI**), Hugh Britten (Co-PI), BJ Schall (Co-PI), Dave Lucchesi (Co-PI). \$33,878.
- 2021 **National Park Service**. Goat Island biodiversity and aquatic-terrestrial subsidies within riparian ecosystems of the MNRR. David Swanson (PI), Mark Dixon (Co-PI), Jeff Wesner (**Co-PI**). \$29,995.
- 2020 **US Geological Survey**. Modeling salmon-derived mercury flux in freshwater ecosystems. Jeff Wesner (**PI**). \$7,438.
- 2020-2021 **South Dakota Game, Fish, and Parks**. Assessing bigheaded carp population distributions in eastern South Dakota tributaries to the Missouri River. Jeff Wesner (**PI**), Hugh Britten (Co-PI), BJ Schall (Co-PI), Dave Lucchesi (Co-PI). \$258,053 (\$199,043 to USD).
- 2020-2022 **South Dakota Game, Fish, and Parks**. Biological characteristics and seasonal use of Blue Sucker in the James River, South Dakota. Dave Lucchesi (PI), Jeff Wesner (**Co-PI**). \$80,105 (\$11,611 to USD).

- 2018-2022 **National Science Foundation.** EAGER: Stage-structured predation between fish and insects. Jeff Wesner (**PI**). Award #1837233. \$199,976
- 2019-2020 **National Park Service.** Evaluate the biologic response of a restored Missouri River backwater. David Swanson (**PI**), Jeff Wesner (**Co-PI**), Mark Dixon (**Co-PI**). \$29,695
- 2015-2018 **South Dakota Game, Fish, and Parks.** Examining the impacts of agricultural tile drainage on wetland fauna in eastern South Dakota. Jake Kerby (**PI**), Jeff Wesner (**Co-PI**). \$185,920

As supporting (\$384,719)

- 2016-2019 **National Science Foundation.** REU Site: Sustainable RIVER (Remediating InVasives to Encourage Resilience). PI – M Jarchow. JS Wesner (**Supporting**) + 8 others. \$363,662 total.
- 2015-2016 **U.S. Environmental Protection Agency,** Characterization of sediment sources in the Lewis and Clark Lake Delta, Missouri Sedimentation Action Committee, \$21,057 (\$3,900 to Wesner). Sweeney, M. (**PI**), Cowman, T (**Co-PI**), Jeff Wesner (**Supporting**), Dixon, M (**Supporting**).

As shadow-PI or major awards to graduate students (\$384,719)

- 2015-2018 **National Science Foundation** Graduate Research Fellowship to Brianna Henry, Evaluating the impacts of chemical stressors on larval and emerging aquatic insects. \$138,000. **Advised by JS Wesner.**
- 2011 **The Roger and Victoria Sant Educational Endowment for a Sustainable Environment.** Trophic niche influence on population movement and growth rate of stream fishes of the western U.S. M Belk (**PI**), Jeff Wesner (**Co-PI – shadow**), \$17,200
- 2011 **Bureau of Land Management.** Trophic niche influence on population movement and growth rate of northern leatherside chub (*Lepidomeda copei*). M Belk (**PI**), Jeff Wesner (**Co-PI – shadow**), \$80,000

Intramural Grants (\$23,750)

- 2015-19 **USD,** USD Faculty Travel Grant, JS Wesner (**PI**), \$4,500 total (~\$900 per year)
- 2015 **USD,** Freshwater ecosystem studies at USD's Experimental Aquatic Research Site (ExARS) – JS Wesner (**PI**), \$8,800
- 2013 **USD,** Model systems to understand threats to freshwater ecosystems. New Faculty Grant – JS Wesner (**PI**), \$9,400
- 2009 **OU,** Robberson Travel Grant –\$500
- 2006/2007 **OU,** Graduate Student Senate Research Activity Grant – 2006 and 2007, \$550

INVITED SEMINARS

KU Leuven, Belgium 2021

University of Montreal, Canada 2021
National Ecological Observatory Network, Boulder, CO 2021
National Ecological Observatory Network, Boulder, CO 2020
University of Zurich, Germany 2020 – Bayesian Thinking & Ecology - Invited as
instructor (declined for scheduling reasons)
Lund University, Sweden 2018 – Aquatic-Terrestrial Action Group
North Dakota State University 2018
Colorado State University 2016
Iowa State University 2015 – Keynote for Environmental Science Symposium
University of South Dakota 2015 – Sigma Xi Lecture
South Dakota State University 2013
University of South Dakota 2013
University of Northern Colorado 2012
University of Alaska – Fairbanks 2012
University of Alaska – Lena Point 2012
U.S. Geological Survey, Fort Collins, CO 2012
Brigham Young University 2010/2011
Sam Houston State University 2011
University of Oklahoma 2010

Conference Presentations (Since 2013 only. ^graduate/undergraduate/postdoc student)

Dunbeck, R[^], **JS Wesner**. Distribution and abundance of phytoplankton in the middle Missouri River basin. Society for Freshwater Science, May 2021.

Dunbeck, R[^], **JS Wesner**. Distribution and abundance of phytoplankton in the middle Missouri River basin. Dakota Chapter of the American Fisheries Society, March 2021.

Sutton, T[^], **JS Wesner**. Population Characteristics and Seasonal Movement of Blue Sucker on the James River, SD. Dakota Chapter of the American Fisheries Society, March 2021.

Ridgway, JM[^], **JS Wesner**. New life for old data: compiling global diet data of freshwater fishes. Society for Freshwater Science, May 2021.

Ridgway, JM[^], **JS Wesner**. New life for old data: compiling global diet data of freshwater fishes. Dakota Chapter of the American Fisheries Society, March 2021.

Ridgway, JM[^], **JS Wesner**, JP Pomeranz. New life for old data: compiling global diet data of freshwater fishes. 4th Annual Digital Data Conference, Indiana University, June 2020.

Kanz, AJ[^], JM Ridgway[^], JM, JP Pomeranz[^], **JS Wesner**. Stage-structured feeding in freshwater fishes. Gordon Research Conference. Ventura, CA, January 2020.

Kanz, AJ, **JS Wesner**. Foraging traits predict stage-structured feeding in freshwater fishes. Missouri River Institute Annual Symposium. Vermillion, SD, Nov 2019.

Ridgway, JM[^], JP Pomeranz[^], **JS Wesner**. New life for old data: compiling global diet data of freshwater fishes. Missouri River Institute Annual Symposium. Vermillion, SD, Nov 2019.

Ridgway, JM[^], JP Pomeranz[^], **JS Wesner**. New life for old data: compiling global diet data of freshwater fishes. SD EPSCoR Undergraduate Research Symposium. Pierre, SD, August 2019.

- Wesner, JS**, DL Swanson, MD Dixon, DA Soluk, DJ Quist[^], LA Yager, JW Warmbold[^], E Oddy[^], TC Seidel[^]. Loss of potential aquatic-terrestrial subsidies along the Missouri River floodplain. Society for Freshwater Science, Salt Lake City, UT, May 2019.
- Kanz, AJ, **JS Wesner**. Stage-structured predation by fish in linked aquatic-terrestrial food webs: a mesocosm experiment. Society for Freshwater Science, Salt Lake City, UT, May 2019.
- Wesner, JS**, DL Swanson, MD Dixon, DA Soluk, DJ Quist[^], LA Yager, JW Warmbold[^], E Oddy[^], TC Seidel[^]. Loss of potential aquatic-terrestrial subsidies along the Missouri River floodplain. Missouri River Natural Resources Committee, March 2019, Pierre, SD.
- Wesner, JS**, DL Swanson, MD Dixon, DA Soluk, DJ Quist[^], LA Yager, JW Warmbold[^], E Oddy[^], TC Seidel[^]. Loss of potential aquatic-terrestrial subsidies along the Missouri River floodplain. Missouri River Institute Symposium, November 2018, Vermillion, SD.
- Kanz, AJ, **JS Wesner**. Stage-structured predation by fish in linked aquatic-terrestrial food webs: a mesocosm experiment. Missouri River Institute Symposium, November 2018, Vermillion, SD.
- Sandoval, Y[^], A Kanz[^], and **JS Wesner**. Stage-structured feeding in Common Carp and Spottfin Shiner. SD EPSCoR Undergraduate Research Symposium. Pierre, SD, August 2018.
- Seidel, T[^], **JS Wesner**. Effects of fishes on aquatic insects in linked aquatic-terrestrial food webs. Society for Freshwater Science, Raleigh, NC, May 2018.
- Henry, B[^]. MN Croteau, DM Walters, DJ Cain, J Miller, **JS Wesner**. Bioaccumulation dynamics and transfer of uranium across metamorphosis in mayfly *Neocloeon triangulifer*. Society for Freshwater Science, Raleigh, NC, May 2018.
- Wesner, JS**, B. Henry. Responses of aquatic insect emergence to tile drains in the prairie potholes. Society for Freshwater Science, Raleigh, NC, May 2018.
- Wesner, JS**, and T. Seidel[^]. Cross-ecosystem effects of stage-structured predator-prey interactions. Gordon Conference, Ventura, CA, February 2018.
- Seidel, T[^], and **JS Wesner**. Effects of fishes on aquatic insects in linked aquatic-terrestrial food webs. National Science Foundation REU Symposium. Washington, DC, October 2017.
- Seidel, T[^], and **JS Wesner**. Effects of fishes on aquatic insects in linked aquatic-terrestrial food webs. American Indian Science and Engineering Society Annual Meeting. Denver, CO, September 2017. *Tyler won 1st place overall for his poster presentation
- Seidel, T[^], and **JS Wesner**. Effects of fishes on aquatic insects in linked aquatic-terrestrial food webs. SDEPSCoR research symposium. Pierre, SD, August 2017.
- Wesner, JS**, L Henning, DC Allen. Are the effects of subsidies at the freshwater-terrestrial boundary consistent across multiple ecosystem boundaries? Society for Freshwater Science, Raleigh, NC, June 2017.
- Henry, B[^]. J Kerby, **JS Wesner**. How do atrazine and selenium impact the link between water and land? Society for Freshwater Science, Raleigh, NC, June 2017.

- Sazama, E[^], SP Ouellette, **JS Wesner**. Prevalence and spatial distribution of Wolbachia within aquatic insects of the Missouri River and associated drainages. Society for Freshwater Science, Raleigh, NC, June 2017.
- Henning, L[^], **JS Wesner**. Short-term responses of benthic and emerging insects to damselfly predation. Society for Freshwater Science, Raleigh, NC, June 2017.
- Oddy, E[^], **JS Wesner**. Spatial and temporal variation in insect emergence from four backwaters of the Missouri river. Society for Freshwater Science, Raleigh, NC, June 2017.
- Nearman, C[^], **JS Wesner**, L Henning, E Sazama, B Henry, E Rolfes, W Waage, S Olson. Minimal effects of fathead minnows on insect emergence from outdoor mesocosms. Society for Freshwater Science, Raleigh, NC, June 2017.
- Wesner, JS**, and JW Warmbold. Contrasting effects of fish predation on benthic versus emerging insects in the Missouri National Recreational River. Midwest Fish & Wildlife Conference, Lincoln, NE. 6 Feb 2017.
- Aplan, I[^], E Marconi, S Maestas[^], **JS Wesner**, H Britten. DNA extraction from leathers and drum heads: Developing an authentication method," SD EPSCoR Undergraduate Research Symposium, Pierre, SD. August 2016.
- Farkas, J[^], D. Davis[^], B Henry[^], **JS Wesner**, J Kerby. The effect of agricultural runoff on fish habitat in the Prairie Pothole region. American Society of Ichthyology and Herpetology, New Orleans, July 2016.
- Siddons, S[^], **JS Wesner**, J Kerby. Increased species richness reduces pathogen infection risk in amphibians: a meta-analysis. American Society of Ichthyology and Herpetology, New Orleans. July 2016
- Wesner, JS**, J Warmbold[^]. Contrasting effects of fish predation on benthic versus emerging insects. Society for Freshwater Science, Sacramento, CA, May 2016.
- Henning, L[^], **JS Wesner**. A systematic review of the study of fish effects on benthic and emerging aquatic insects. Society for Freshwater Science, Sacramento, CA, May 2016.
- Henry, B[^]. J Kerby, **JS Wesner**. Effects of selenium and pesticides on aquatic-terrestrial resource subsidies in the Prairie Potholes. Society for Freshwater Science, Sacramento, CA, May 2016.
- Sazama, E[^], C. Shouldis[^], SP Ouellette, **JS Wesner**. Prevalence and spatial distribution of Wolbachia within aquatic insects of the Missouri River and associated drainages. Society for Freshwater Science, Sacramento, CA, May 2016.
- Henry, B[^], **JS Wesner**, J Kerby. Effects of selenium and pesticides on aquatic-terrestrial resource subsidies in the Prairie Potholes. South Dakota Academy of Science, Sioux Falls, SD, April 2016.
- Wesner, JS**, J. Warmbold[^]. Fish reduce algae and insect emergence by > 90% in a Missouri River backwater. South Dakota Academy of Science, Sioux Falls, SD, April 2016.
- Sazama, E[^], C. Shouldis[^], SP Ouellette, **JS Wesner**. Prevalence and spatial distribution of Wolbachia within aquatic insects of the Missouri River and associated drainages. South Dakota Academy of Science, Sioux Falls, SD, April 2016.
- Bosch, M[^], E. Sazama[^], **JS Wesner**. Threshold behavior of Wolbachia spread in insect populations. South Dakota Academy of Science, Sioux Falls, SD, April 2016.

- Wesner, JS, J Warmbold**[^]. Fish reduce algae and insect emergence by > 90% in a Missouri River backwater. Missouri River Institute, Vermillion, SD, April 2016.
- Sazama, E[^], C. Shouldis[^], SP Ouellette, **JS Wesner**. Prevalence and spatial distribution of *Wolbachia* within aquatic insects of the Missouri River. Missouri River Missouri River Institute, Vermillion, SD, April 2016.
- Wesner, JS**, and DC Allen. Resource and consumer fluxes at the water-land interface and beyond: a meta-analysis. American Fisheries Society, Portland, OR, August 2015. *Invited symposium presentation (Cross-Ecosystem Resource Subsidies: From Land to Water and Back Again)*.
- Warmbold, JW[^], and **JS Wesner**. An emerging decline: large consumers reduce aquatic insect emergence by an order of magnitude in a Missouri River backwater. American Fisheries Society, Portland, OR, August 2015.
- Wesner, JS**, DM Walters, TS Schmidt, JM Kraus, R Wanty, R Stricker and WH Clements. Metal concentrations decline by an order of magnitude during metamorphosis in the mayfly (*Baetis tricaudatus*). Society for Freshwater Science, Milwaukee, WI, May 2015.
- Warmbold, JW[^], and **JS Wesner**. An emerging decline: large consumers reduce aquatic insect emergence by an order of magnitude in a Missouri River backwater. Society for Freshwater Science, Milwaukee, WI, May 2015.
- Sazama, E[^], Ouellette, SP, and **JS Wesner**. Surveying the presence of *Wolbachia* in the Missouri River ecosystem, Milwaukee, WI, May 2015.
- Wesner, JS**, JM Kraus, TS Schmidt, DM Walters and WH Clements. Metamorphosis enhances the effects of metal exposure on the mayfly, *Centroptilum triangulifer*. Ecological Society of America, Sacramento, CA, August 2014.
- Kraus, J, Walters, D., **Wesner, JS**, Stricker, C., and Schmidt, T. Metamorphosis in insects alters risk of contaminant exposure in food webs. Joint Aquatic Sciences Meeting, Portland, OR, May 2014.
- Walters, DM, Zeullig, R., Kowalski, D., **Wesner, JS**. Quantifying the emergence of the giant stonefly (*Pteronarcys californica*) and its importance to terrestrial food webs in U.S. western rivers. Joint Aquatic Sciences Meeting, Portland, OR, May 2014.
- Wesner, JS**, Kraus, J., Schmidt, T., Walters, D., Clements, W. The effects of aqueous zinc exposure are enhanced during mayfly metamorphosis in the lab. Joint Aquatic Sciences Meeting, Portland, OR, May 2014.
- Kraus, J, Walters, D., **Wesner, JS**, Stricker, C., Schmidt, T. Metamorphosis in insects alters risk of contaminant exposure in food webs. Rocky Mountain SETAC, Laramie, WY, April 2014.
- Wesner, JS**, Kraus, J., Schmidt, T., Walters, D., Clements, W. Metal exposure increases mortality of aquatic insects during metamorphosis. Rocky Mountain SETAC, Laramie, WY, April 2014.
- Schmidt, T, Kraus, J., **Wesner, JS**, Walters, D. The living dead: When aquatic life standards protect aquatic insect larvae but not adults. Rocky Mountain SETAC, Laramie, WY, April 2014.
- Walters, A, N Carr, K Sherrill, and J Wesner. What insight can the Wyoming Basin Rapid Ecoregional Assessment provide for fisheries and aquatic habitat management in Wyoming? Colorado Wyoming Chapter of the American Fisheries Society, Laramie, WY, 4 March 2014.

- Kraus, JM, DM Walters, **JS Wesner**, CA Stricker, TS Schmidt, and RE Zuellig.
Metamorphosis in insects alters contaminant transfer, diet tracers and risk to wildlife.
Society for Environmental Toxicology and Chemistry, Nashville, TN, 19 November
2013.
- Wesner, JS**, JM Kraus, TS Schmidt, DM Walters, and WH Clements. The role of
metamorphosis in regulating metal flux from aquatic to terrestrial food webs.
Entomological Society of America, Austin, TX, 10 November 2013.

HONORS AND RECOGNITIONS

- 2020 Nominated for Belbas Larson Award for Excellence in Teaching (USD)
2018 Nominated for Belbas Larson Award for Excellence in Teaching (USD)
2017 Certificate of Achievement – Outstanding Mentorship. USD Chapter of the
American Indian Science and Engineering Society (USD)
2015 Nominated for the Hynes Award (Society for Freshwater Science) (USD)
2010 Wilks Award Finalist – Southwestern Association of Naturalists (OU)
2008/2009 Adams Memorial Scholarship in Zoology (OU)
2008 OU Biological Station (UOBS) Graduate Research Fellowship (OU)
2008 Award for Excellence in Graduate Teaching, Department of Zoology (OU)
2007 UOBS Graduate Research Fellowship (OU)

WORKSHOPS ATTENDED

- 2020 Open Textbook Fellowship – University of South Dakota
2019 *Near-term Ecological Forecasting* – Boston University
2015 *Applied Bayesian Modeling for Ecologists* – Colorado State University

SERVICE AND ENGAGEMENT

EXTERNAL SERVICE

Extramural Review Panels

- 2021 Reviewer, Emerge Fellowships, SFS
2020 Panelist, National Science Foundation, Population and Community Ecology
2020 Member – Aquatic Technical Working Group, NEON
2020 Ad hoc reviewer for ZSUN OSF (Polish equivalent of NSF)
2018 Ad hoc reviewer for NERC proposal (UK equivalent of NSF)
2018 National Science Foundation, DEB (invited, but program cancelled)
2014 Panelist, National Science Foundation, Graduate Research Fellowship Program
2014 Ad hoc reviewer for R.C. Good Fellowship grant proposal (Denison University)

Editorships/Reviewing

- 2019-present Subject-matter Editor – *Ecosphere*
2020-2021 Special Issue Editor – *Frontiers in Ecology and the Environment*
2017 Ad hoc reviewer for USD proposal to the SD Board of Regents
2010-present Journal Reviewer (~10 papers per year, ~35 different journals): *Ecology Letters*,
Ecology, *Oecologia*, *Oikos*, *Ecological Monographs*, *Global Change Biology*, *Environmental
Science & Technology*, *Environmental Pollution*, *Scientific Reports*, *Biology Letters*, *Proceedings
of the Royal Society B – Biological Sciences*, *Wetlands*, *Journal of Animal Ecology*,

Environmental Science and Pollution, Freshwater Science, Genomes, Environmental Biology of Fishes, Ecology of Freshwater Fish, Biological Conservation, Environmental Toxicology & Chemistry, Ecological Entomology, Austral Ecology, Western North American Naturalist, Journal of Ecology and the Natural Environment, Zoological Studies, BMC Evolutionary Biology, Hydrobiologia, Southwestern Naturalist, Sustainability, Remote Sensing, Landscape Ecology, Water, Applied Geochemistry

State Service

2016-17 Presentations of water quality and wildlife diversity in managed wetlands to the SD State Wildlife Management Agency, Mitchell, SD

Other Activities

2019 Moderator, Society for Freshwater Science, Salt Lake City, UT
2019 Judge for Student Presentations, Society for Freshwater Science, SLC, UT
2018 Co-Chair, Annual Meeting of the Society for Freshwater Science, Detroit, MI
2016-present Mentored SD BRIN research (high school biomedical science research)
2015-present “Day in the Water” for USD RAP and Upward Bound students (high school)
2015 Mentored K-12 research with Vermillion Public Schools
2014 River biodiversity demonstration at USD chapter of AISES
2013 Student presentation judge for SFS, Jacksonville, FL
2012 Moderator, Society for Freshwater Science, Louisville, KY
2010/11 Faculty advisor for the BYU student chapter of the American Fisheries Society
2011 Moderator, North American Benthological Society, Providence, RI
2011 Student presentation judge for NABS (Providence, RI)
2009 Advisor for International Science and Engineering Fair (high school)
2006/7 Graduate Student Senator, University of Oklahoma
2004 Volunteer advisor for Upward Bound project at Western Carolina University

UNIVERSITY SERVICE

University

2019-present Member - IACUC
2015-present Interviewer, USD Scholarship Committee
2017 Faculty Senate – Biology proxy for Dr. Summers (Nov. 1)
2016-present Workshop on research writing for undergraduates – USD

College of Arts & Sciences

2019-present Faculty Mentor (Biology, Anthropology)
2018-present A&S Student Scholarship Committee
2017 Curriculum and Instruction Committee

Department of Biology

2018 Graduate Program Coordinator/Chair of Graduate Selections Committee
2018-present Website liaison
2018 Faculty search committee for Spatial Modeler
2014-present Graduate Selections Committee
2017 Faculty search committee for Ecological Modeler
2015 Faculty search committee for Integrative Biology

2015 Animal Use Committee
2014 Equipment Committee

MENTORING

POSTDOCTORAL SCHOLARS

Justin Pomeranz, Ph.D. 2019-present

GRADUATE STUDENTS

Ph.D. Supervisor

Eric Sazama, 2014-2018, *successfully defended in 2018*

M.S. Supervisor

Lindsey LaBrie, 2021-present

Ryan Dunbeck, 2019-present

Tanner Carlson, 2020-present

Abraham Kanz, 2017-2019, *successfully defended in 2019*

Brianna Henry, 2015-2018, *successfully defended in 2018*

Lauren Henning, 2015-2018, *successfully defended in 2018*

Jerry Warmbold, 2014-2016, *successfully defended in 2016*

M.S. Non-thesis Supervisor

Kayla Jarandson, 2018-2019 (Accelerated M.S.)

Graduate student committee member

Reza Goljani Amirkhiz, 2019-present

Anna Kase Ph.D. 2018-present

Rachel Drown M.S. 2018-present

Kaitlynn Campbell Ph.D. 2018-present

Brian Lowery Ph.D. 2016-present

Laura Jackson Ph.D. 2015-2019

Patricia Dombrowski M.S. 2015-present

Catherine Beal M.S. 2017-2019

Jillian Farkas M.S. 2016-2019

Eva Soluk M.S. 2015-2018

Lauren Maestes Ph.D. 2015-2018

Abby Davis M.S. 2014-2015

Spencer Siddons M.S. 2014-2016

Naomi Sazama, M.A. (Mathematics) 2015

UNDERGRADUATE RESEARCH MENTORING

Jade Muller-Smit, USD – Sustainability land use at USD, 2020

Jaid Freestone, USD – Stage-structured fish predation, 2020

Trevor Stahl, USD – Stage-structured fish predation, 2019

Katy McCarthy, Georgia Tech – Insect PUFA's, NSF REU at USD, 2019

Alexis Culley, Sweet Briar College – Fish predation, NSF REU at USD, 2019

Sarah Lane, USD – Aquatic insect identification, 2019
Jacob Ridgway, USD – Fish predation and insect response, 2019
Yasmeen Sandoval, Nebraska Indian Community College – NSF REU at USD, 2018
Kierra Determan, USD – Fish predation and insect responses, 2018
Zach Dibbern, USD – Fish predation and insect responses, 2018
Trevor Pease, USD – Stage-structured fish predation, 2017
Tyler Seidel, USD – Fish predation and insect emergence, NSF REU, 2017
Erika Oddy, USD – Insect emergence phenology from the Missouri River, 2016-17
Amanda Hegg, USD – Wetland insect sorting, 2015
Charlie Nearman, USD – Wetland invertebrates and fish predation, 2015-17
Erika Oddy, USD – Fish and insect ecology, 2015-17
Michael Bosch, USD – Bacterial modeling, 2015-16
Hannah Steinley, USD – Insect sorting, 2015-16
Justin Schaefer, USD – Water quality and aquatic invertebrates, 2014-2015
Spencer Neuharth, USD – Formalin as an antifungal treatment for fish eggs, 2014-2015

Honors thesis committees (* indicates chair of committee)

Peyton Keller, USD - 2021
Sarah Lane*, USD - 2020
Jacob Ridgway*, USD - 2020
Kierra Determan, USD - 2019
Jed Jacobson, USD – Riparian ecology, 2018
Ellen Roufs, USD – Biology education for K-2, 2018
Kristie Jo Schmidt, USD – Aggressive behaviors in Betta fish, 2018
Audra Van Ekeren*, USD – Fatty acids in adult aquatic insects, 2017
Kaitlyn Ashley, USD – Climate change and the Hine's Emerald Dragonfly, 2016
Liz Berg, USD – Amphibian microbiomes and *Bd* infection, 2015
Kaitlyn Stern, USD – Pesticide chemistry (Department of Chemistry), 2015